The Fight against Global Poverty: 200 Years of Progress and Still a Very Long Way to Go

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1. Introduction

Global poverty is one of the most pressing problems that the world faces today. The poorest in the world are often hungry, without access to basic services such as electricity and safe drinking water, have less access to education, and suffer from much poorer health.

Reflecting its importance, the eradication of extreme poverty by 2030 is the very first of the 169 targets set out in the Sustainable Development Goals (SDGs) by the United Nations. The international poverty line on which this target is based is set to the threshold of living on less than 1.90 international dollars per day. That is a very low threshold, in line with poverty definitions adopted in the world's poorest countries.

Recent projections suggest we are not on track to achieve this goal. Even before the onset of the coronavirus pandemic and the resulting global recession, prevailing rates of economic growth and levels of inequality suggested that around 500 million people—roughly 6% of the world's population—would remain in extreme poverty in 2030 (World Bank 2018, 2020).

Is such extreme poverty inevitable?

The history of global poverty shows us clearly that this is not the case. The aim of this chapter is to summarise what we know about that history, to help inform our aspirations for the future.

The chapter considers two approaches adopted by researchers to estimate the extent of global poverty over time. The first of these are estimates from the World Bank based on household survey data, which cover the period from 1981 onwards.

However, in order to see where we have come from, we must look much further back in time: 30 or even 50 years are not enough. When you only consider how the world has looked during this recent past it is easy to make the mistake of thinking of the world as static—the rich and healthy parts of the world here and the poor and sick regions there—and to falsely conclude that it always was, and will always be,

as such. Indeed, this is what polling data suggests that the majority of the public believe to be true.[1]

With a longer perspective, it becomes very clear that the world is not static at all. The countries that are rich today were very poor until just a few generations ago and were in fact worse off than many poor countries today.

To avoid portraying the world in a static way we have to start at least 200 years ago, before the time when living conditions really changed dramatically. To do this, we rely on historical estimates based on data recorded in national accounts and earlier reconstructions of such data made by economic historians.

This evidence shows a substantial decline in poverty rates over the last two centuries, with particularly fast progress made in recent decades. The changes we see over the long run should embolden us to reach not only for the eradication of the most extreme forms of poverty but for much more ambitious goals still.

The chapter is structured as follows: Section 2 first outlines the data and methods used by the World Bank to estimate the evolution of global poverty over time. Considering the range of official poverty lines adopted by richer and poorer countries, it then discusses World Bank estimates for global poverty measured according to multiple poverty lines spanning that range. Section 3 discusses the available historical data on incomes that are needed in order to estimate global poverty trends over the last two hundred years: reconstructions of GDP per capita and data on the extent of inequality. Section 4 presents our long-run global poverty estimates, comparing the trends to those found in the World Bank estimates for recent decades. Section 5 outlines other data and research on the living conditions of people in past centuries as a means of sense-checking the long-run trends in monetary poverty presented in the chapter and setting them in the broader context of human welfare.

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[1] A 2016 survey conducted by Glocalities, in partnership with Oxfam, the Bill and Melinda Gates Foundation, and Global Citizen found 87% of people from 24 countries surveyed believe that extreme poverty has either increased or stayed the same over the last 20 years. Overall, 67% of respondents believed that ending global poverty by 2030 was unlikely (Lampert and Papadongonas 2016). Similar results concerning public awareness of extreme poverty trends were found in an 2017 Ipsos MORI poll ("Ipsos MORI" 2017).

2. World Bank Survey-Based Estimates

To track progress towards the target of eradicating extreme poverty by 2030, the UN relies on World Bank estimates of the share of the world population falling below the international poverty line of $1.90 per day, shown in Figure 1 below.
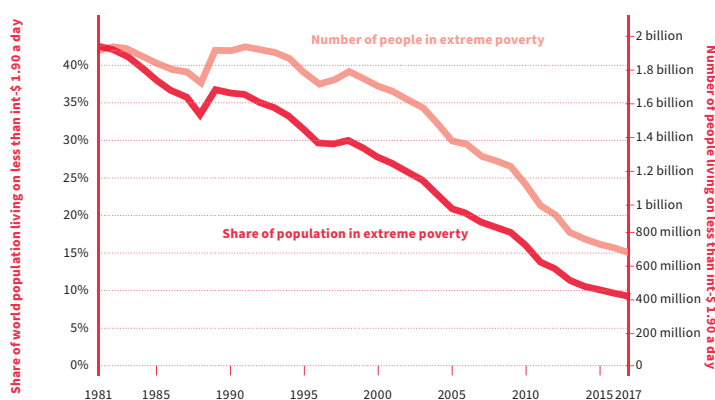

Figure 1. Number and share of people living in extreme poverty globally, 1981–2017. Source: PovcalNet (World Bank). Note: Extreme poverty is defined as living with per capita household consumption or income below 1.90 international dollars per day (in 2011 PPP prices). International dollars are adjusted for inflation and for price differences across countries. The sharp rise in 1989 reflects a change in survey methodology in China.

The reference to the 'international poverty line' (IPL) here, however, signals not just a particular dollar threshold but also the set of methods adopted by the World Bank in drawing that line and estimating the share of people above or below it.

2.1. The World Bank's Approach to Measuring Global Poverty

This method was first presented by the World Bank in its *World Development Report 1990: Poverty* (World Bank 1990) which provided estimates of extreme poverty based on a $1 a day poverty line, expressed in 1985 prices.[2] This line was chosen

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2   As discussed below, the reference to 1985 prices here indicates adjustments to account for both inflation and price differences across countries as observed in 1985. The '$1 a day' line was initially set at $1.02 a day based on a sample of national poverty lines, adjusted for price differences across countries, collected by Ravallion et al. (1991). This was revised to $1.08 upon applying 1993 prices to the same set of poverty lines (Chen and Ravallion 2001, 2007).

so as to measure global poverty by the standards of the world's poorest countries, being representative of the national poverty lines observed in such countries at the time. Following broader adoption in the international development community, this measure became the basis for the first of the eight Millennium Development Goals (MDGs). The goal to halve the rate of extreme poverty between 1990 and 2015 was one of the MDGs that were achieved.[3] Based on an expanded and updated set of national poverty lines, this was revised to $1.25 at 2005 prices (Ravallion et al. 2009) in line with the official lines observed in the poorest 15 countries.[4] More recently, the IPL was updated to $1.90 in 2011 prices, a figure obtained by adjusting the same set of 15 national lines for inflation (Ferreira et al. 2016).

The Bank's estimates of the share of the population falling below the IPL are based on national surveys that provide data on households' consumption or income.[5]

These survey data are adjusted to account for price differences across countries and for inflation over time. The resulting figures, as well as the poverty line itself, are expressed in 'international dollars' at a given year's prices. The World Bank's current estimates are based on 2011 prices, such that one international dollar has the same purchasing power as 1 US dollar had in the United States in 2011. In the interest of readability, we do not repeat the full unit of measurement as international dollars in what follows and simply use $ as an abbreviation throughout.

Since surveys are not conducted every year in every country, in order to estimate the global share of people below the IPL for a given reference year, researchers must rely on the closest available survey data for each country. Data from surveys not conducted in the reference year are 'lined up' using growth rates recorded in the national accounts (Prydz et al. 2019).

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[3] Achievement of the MDGs was measured by targets and, out of fourteen targets permitting quantitative assessment, this was one of only five that were achieved. For a collection of data on the achieved and missed MDG targets see https://ourworldindata.org/millennium-development-goals (accessed 25 January 2021).

[4] As ranked by consumption per capita—namely, Malawi, Mali, Ethiopia, Sierra Leone, Niger, Uganda, Gambia, Rwanda, Guinea-Bissau, Tanzania, Tajikistan, Mozambique, Chad, Nepal, and Ghana (Ravallion et al. 2009).

[5] This is largely determined by which type of survey is available in each country. Consumption surveys are used for a majority of countries, and this is particularly true of poorer countries in which most of the world's poor live. But the World Bank's estimates for many countries, most notably many Latin American and Caribbean countries, are based on income surveys. This inconsistency affects the comparability of estimates across countries and over time, discussed later on in the chapter.

2.1.1. Criticism and Alternative Approaches

It is important to remember that there is no concept of poverty that can claim universal agreement. In this regard, measuring the extent of poverty is not like measuring a person's height or weight. Competing normative principles and limitations in the quality of available data leaves room for disagreement as to how poverty should be measured, and this is especially the case at the global level.

One question concerns the level at which the poverty line is to be set. A number of authors view the international poverty line of $1.90 a day to be too low (Pritchett 2006) or too high (Ravallion 2016b) to capture morally relevant aspects of the global income distribution, or, in any case, to be lacking clear justification (Reddy and Pogge 2009). The inability of a single line to reflect both the depth and breadth of poverty experienced around the world (discussed further in Section 2.3 below) demonstrates the importance of tracking multiple poverty lines, as will be carried out throughout this chapter.

A more general area of contention relates to the aforementioned price adjustments needed to apply *any* fixed poverty line that is constant in terms of purchasing power across countries. The difficulty involved in such an adjustment is the source of significant uncertainty concerning the level of extreme poverty globally and its geographic distribution (Deaton 2010). This is evidenced, for instance, by the substantial revisions to the World Bank's estimates of global poverty that have followed the periodic updates of the price data on which these adjustments are based (Deaton 2010; Dykstra et al. 2014).

Moreover, adjusting for price differences across countries faces the inherent challenge of comparing a diverse set of goods and services, the consumption of which is often specific to particular regions or income levels. Some authors have questioned the validity of the World Bank's approach in adjusting for the price of a basket of goods and services that includes many items only consumed by the non-poor or in rich countries (Reddy and Pogge 2009; Allen 2017). Asali, Reddy and Visaria (2008) and Allen (2017) advocate an alternative approach in which incomes are compared against the local minimum cost of meeting the basic needs of food and shelter, all measured in local currencies and thereby avoiding the need for cross-country price indices altogether.

Within this debate, however, it is important not to take an exaggerated impression of the uncertainty that international price comparisons imply for poverty measurement. Updates to the international price data, although leading to significant revisions of the estimated levels of global poverty, have left our understanding of the key trends in extreme poverty broadly unchanged (Chen and Ravallion 2010;

Deaton 2010). Using household survey data, Deaton and Dupriez (2011) compare purchasing power parity rates (PPPs)—the standard price indices used to compare incomes internationally, including within the World Bank's poverty estimates—with 'poverty-weighted' PPPs that reflect the consumption patterns of households living at or near the poverty line. They find that relative price levels between countries are broadly similar across the two sets of PPPs, implying a limited impact on poverty measures. Furthermore, Moatsos (2021), applying Allen's 'cost of basic needs' approach, finds long-run declines in global poverty broadly similar to those found using the World Bank's methodology (see Section 5.1). In summary, the available evidence concerning the influence of cross-country price adjustments on poverty measures does not undermine the key trends present below—it *reinforces* them.

2.2. Extreme Poverty Since 1981

Figure 1 shows the global estimates for the number and share of people living below the international poverty line from the World Bank. The estimates begin in 1981, prior to which survey coverage is judged to be too low (Chen and Ravallion 2009). In that year, 42% of the world's population is estimated to have been living on less than $1.90 per day, roughly 1.9 billion people. The figures show a substantial reduction in extreme poverty in the decades following. By 2017, the latest available year, the World Bank estimates that the share had fallen to 9%—less than one-quarter of its 1981 level. This translates to more than 1 billion fewer people living in extreme poverty, over a period in which the world's population grew by around 3 billion.

Recent decades show us that rapid, substantial reductions in poverty are possible. However, a number of factors point to a future in which progress against extreme poverty is slower.[6]

Firstly, the recession caused by the coronavirus pandemic has likely increased the number of people in extreme poverty. 'Nowcasting' estimates produced by the World Bank suggest that there were more than 100 million more people in extreme poverty in 2020 relative to its expectations for what would have occurred in the absence of the pandemic—'the worst reversal on the path towards the goal of global poverty reduction in at least the last three decades'.[7]

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[6]   For a discussion of future possibilities for moving beyond very low levels of extreme poverty towards its eradication, see Martin Ravallion's contribution to the present volume, 'SDG1: The Last 3%'.

[7]   The World Bank *Poverty and Shared Prosperity 2020* report provides two COVID-19 scenarios that yield 88 million and 115 million people in extreme poverty above the baseline scenario. An update published in January 2021 presents even higher projections of between 119 and 124 million additional

Yet, even before the pandemic, there was evidence of a slowdown in the rate of extreme poverty reduction: we see the lines in Figure 1 flattening from the early 2010s. Projections made by the World Bank and other development research organisations concur that, even if pre-pandemic rates of economic growth and levels of inequality had continued, future progress against extreme poverty would have fallen short of the goal of eradication by 2030.[8]

The reasons for this can be better understood by looking at the regional trends in extreme poverty.

Figure 2 shows that the distribution of the extremely poor across world regions has changed significantly in recent decades. In 1990, more than a billion of the extremely poor lived in China and India alone (Figure 2, left panel). In the decades that followed, those economies grew faster than many of the richest countries in the world, bringing down extreme poverty rates in their regions and across the world as a whole (Figure 2, right panel). As a consequence, the concentration of the world's poorest shifted from East Asia in the 1990s to South Asia in the 2000s and then to sub-Saharan Africa in the 2010s. Sub-Saharan Africa has seen less growth in incomes and poverty rates have, therefore, fallen far slower. The slow decline of the *share* in extreme poverty was offset by population growth, resulting in a slow increase in the number of extremely poor people in sub-Saharan Africa.

Global poverty declined during the last generation because the majority of the poorest people on the planet lived in countries with strong economic growth. This is now different. The majority of the world's poorest today live in economies that have seen little growth in recent decades. A return to the growth trajectories of the time before the pandemic will not be enough to end global extreme poverty—the lack of growth in the economies that are home to the world's poorest populations would imply a future in which hundreds of millions face the prospect of remaining stuck in extreme poverty.

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people in extreme poverty (https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021, accessed 25 January 2021). The quote given is taken from an earlier update (https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-effect-new-data, accessed 25 January 2021).

[8] See the World Bank projections in its *Poverty and Shared Prosperity* report series (World Bank 2018, 2020). Prior to the coronavirus pandemic, these projections pointed to around 6% of the world's population—roughly 500 million people—living below the international poverty line in 2030. This is similar to the projections made by the Overseas Development Institute (ODI) and the World Poverty Lab jointly with the Brookings Institute, documented by ODI at their blog (https://www.odi.org/blogs/10688-new-projections-show-extreme-poverty-falling-not-fast-enough, accessed 25 January 2021).
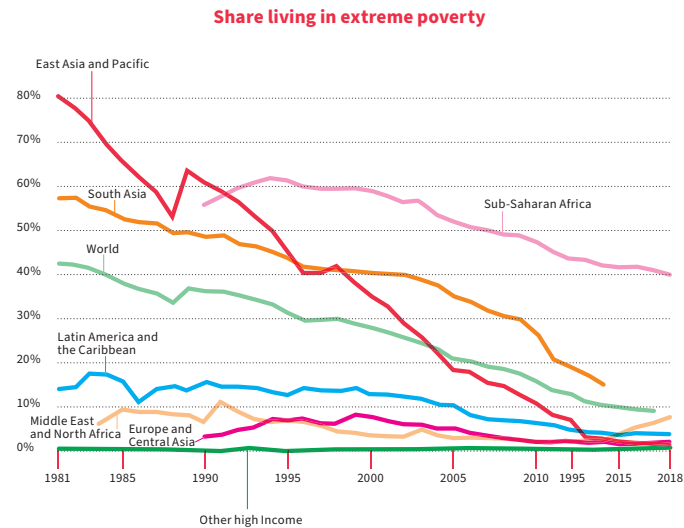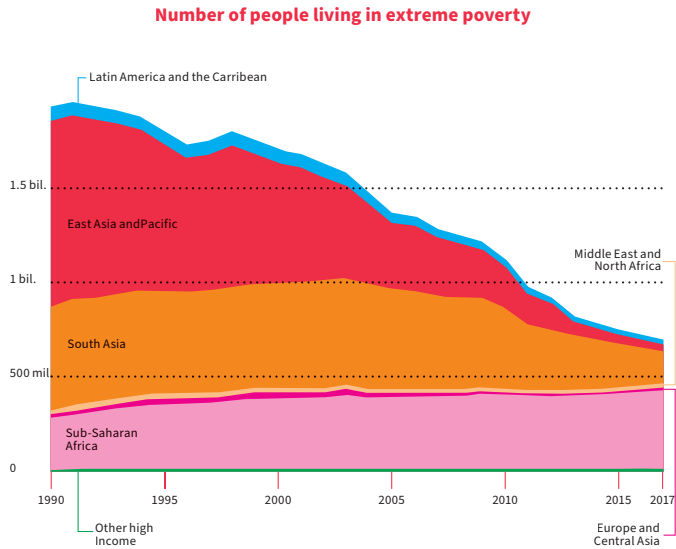
Number of people living in extreme poverty

Share living in extreme poverty

Figure 2. Number and share of people living in extreme poverty by world region. Source: PovcalNet (World Bank). Note: Extreme poverty is defined as living with per capita household consumption or income below 1.90 international dollars per day (in 2011 PPP prices). International dollars are adjusted for inflation and for price differences across countries. The rise in East Asia in 1989 reflects a change in survey methodology in China.

2.3. Poverty at Higher and Lower Thresholds

2.3.1. Poverty from the Perspective of Richer and Poorer Countries

Whilst the international poverty line has been adopted widely by international organisations, it is important to remember that different individual countries adopt different definitions when assessing the extent of poverty amongst their own citizens.

Comparing across countries, we see that richer countries tend to set substantially higher poverty lines. Figure 3 plots a dataset of national poverty lines collated by Jolliffe and Prydz (2016) against GDP per capita. This chart makes it clear how *extremely low* the international poverty line of $1.90 is. It denotes a standard of living that falls far beneath the level at which people would be considered poor in rich countries.
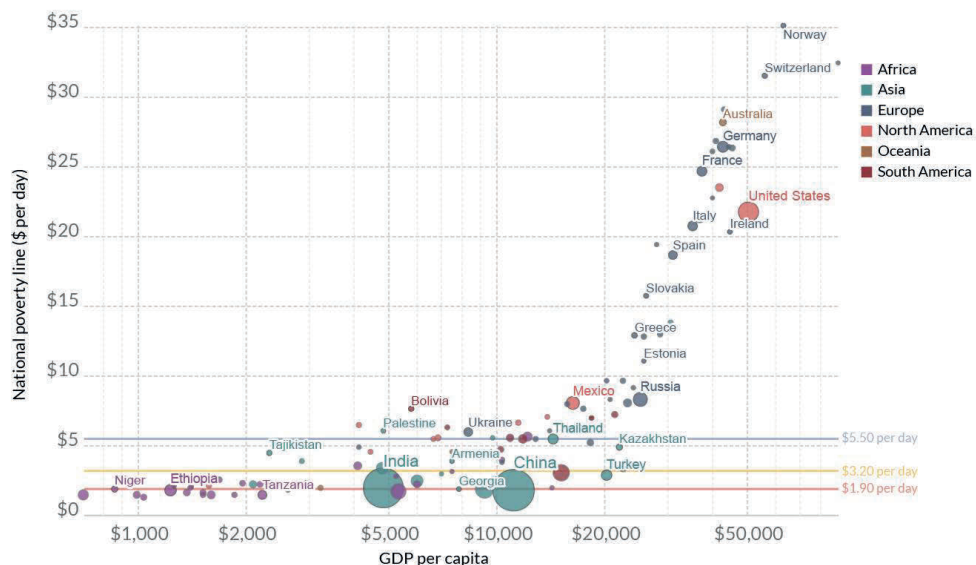

Figure 3. National poverty lines vs. GDP per capita. Source: Jolliffe and Prydz (2016), World Bank. Note: Both metrics are adjusted for price differences between countries and are measured in international-$ at 2011 PPP prices. The three horizontal lines mark the three poverty lines adopted by the World Bank (World Bank 2018).

The national poverty lines shown in this figure are set according to both absolute and relative definitions of poverty. Most low- and middle-income countries measure poverty according to an absolute poverty line whose value remains fixed over time.

21

Most high-income countries use a relative poverty line whose value rises (or falls) in line with the general standard of living in that country. Typically, relative national poverty lines are set at 40%, 50%, or 60% of the median income.

Such a relative concept aims to identify individuals or households whose income is so low relative to the average in their society that they are 'excluded from ordinary living patterns, customs and activities' (Townsend 1979, p. 31). The principle behind setting a poverty line relative to the average income is the idea that as incomes in a society rise, so too does the level of material resources needed in order to participate in 'ordinary' life in that society. On such a definition, poverty can only fall where inequality in the lower half of the distribution is reduced.

Whilst the principles behind these two ways of measuring poverty are very different, Figure 3 shows that the distinction is less stark in practice. The upward-sloping relationship can be observed across all countries, not only the high-income countries that have adopted a relative definition of poverty. This means that absolute poverty lines also tend to be set at a level that is reflective of the standard of living typical for that society, albeit in a less mechanical way. Whilst absolute poverty lines are not pegged to average incomes, they are subject to periodic revision. As countries become richer, they tend to raise the official poverty line. India, China, and Nepal, for instance, have all raised their poverty lines in the last decade as their average incomes have risen (World Bank 2018, p. 74; Chen and Ravallion 2013).

The diversity of definitions of poverty we see across richer and poorer countries raises an important question: Which of these perspectives should be relied on in order to quantify the extent of poverty *globally*? This has been a central concern of poverty researchers since the very first global estimates (Ahluwalia et al. 1979; Ravallion et al. 1991).

One common response has been the use of multiple poverty lines. As is seen in Figure 3, the IPL is set at the level of the poverty lines typical amongst the very poorest countries in the world. The World Bank has adopted two further poverty lines of $3.20 and $5.50 in order to monitor global poverty from a perspective more in-line with the definitions adopted in lower- and upper-middle-income countries (World Bank 2018).[9] The extent of recent progress against poverty as measured relative to these higher lines will be assessed in the next section.

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[9] These thresholds were the median values found by Jolliffe and Prydz (2016) within their dataset when looking at the national poverty lines adopted in lower-middle- and upper-middle-income countries (defined according to the World Bank's income classification based on the level of GDP per capita).

A second, more recent, response to this question has been the development of a new approach to global poverty measurement in which this relative dimension is brought to the fore. Building on the work of Jolliffe and Prydz (2021), Chen and Ravallion (2013), Atkinson and Bourguignon (2001) and others, the World Bank has adopted an additional 'societal poverty line' (SPL) that combines absolute and relative approaches (World Bank 2018). For the world's poorest countries, the SPL is set at the international poverty line of $1.90. Above a certain threshold, however, the value of the line begins to rise in proportion to the median level of consumption in each individual country. For every additional $1 the median level of consumption per day rises, the SPL rises by 50 cents—similar to the way in which national relative poverty lines increase with median income across most high-income countries.

The SPL can be thought of as combining two goals within a single measure of global poverty: firstly, that a minimum absolute level of subsistence is ensured for all, and secondly, that people achieve an acceptable standard of living judged according to the norms of the country in which they live. To be judged non-poor according to this 'societal' measure, a household must fall into neither kind of poverty (Ravallion and Chen 2019; Atkinson and Bourguignon 2001).

According to World Bank estimates for 2017, on top of the roughly 690 million people below the absolute poverty threshold of the IPL, there were a further 1.4 billion people living in relative poverty, bringing the total number of poor under this combined definition to just over 2 billion (World Bank 2020, p. 65). Over time, the global societal poverty rate has fallen but much less rapidly than the extreme poverty rate—from 45% in 1990 to 28% in 2017. Many of the people that managed to leave extreme absolute poverty over this time remained poor measured by a poverty line typical of the income level of their country.

This relative component of the SPL means that two people with the same absolute level of income (above the IPL) may be judged poor in one country and not another, depending on which country they live in. This is brought into particularly sharp relief in aggregating over countries with such widely varying levels of income. The idea that a person living in Liberia that sees their income rise above $2 and a person living in Norway that sees their income rise above $32 are both to be considered as having been lifted out of the same concept of poverty may strike some as counter-intuitive or even unethical.[10] Whilst the observation that richer countries

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[10]   The SPL is calculated as the maximum of either the international poverty line of $1.90, or else $1.00 + 0.5 × median consumption. According to survey data provided in Povcalnet (http://iresearch.worldbank. org/PovcalNet/povOnDemand.aspx, accessed 25 January 2021) the median monthly consumption in

tend to adopt higher poverty lines nationally highlights the inherently social nature of poverty, an understanding of the share of people living below higher and lower absolute thresholds remains indispensable.

2.3.2. Global Poverty at Higher and Lower Poverty Lines

The same approach used to monitor the share of people falling below the international poverty line can be relied upon to assess the extent of poverty relative to other fixed poverty lines.

Figure 4 shows the share and the total number of people around the world living below different absolute thresholds. The $1.90, $3.20, and $5.50 lines shown are those adopted by the World Bank to reflect the poverty lines typical of low-, lower-middle-, and upper-middle-income countries, respectively. We have added two higher lines of $10 and $30 which broadly cover the range of poverty lines adopted by rich countries, as indicated in Figure 3 above.[11]

We see that globally the share of people below any of the poverty lines was declining up to the latest data in 2017. However, the timing and pace of the decline were very different across the different thresholds.

Whilst the share falling below the international poverty line of $1.90 decreased fairly steadily at a rate of around 1 percentage point per year since 1981, there was no progress against a poverty line of $10 per day until around 2000, with roughly only one-quarter of the world population living on more than $10 a day between 1981 and 2000. The world started to make progress against poverty relative to higher cutoffs only recently, but progress has been fast since then: by 2017, the share living on more than $10 had increased to more than one-third.

Measured against a $30 a day line—roughly the level of the poverty lines set in the world's very richest countries—the vast majority of the world population is living in poverty, and the share above the poverty line has increased only slowly over this period.

Liberia in 2016 was $62.83, or $2.07 as a daily figure. The SPL is thus $1 + 0.5 \times 2.07 = \$2.03$. The same source reports Norway's median monthly income in 2017 to have been $1890, or $62 per day. The SPL, in this case, is $1 + 0.5 * 62 = \$ 32$.

[11] The figures for each poverty line are the global aggregates as reported by the World Bank's Povcalnet API on 25 January 2021 (see http://iresearch.worldbank.org/PovcalNet/getstarted.aspx).

Share of world population   **Number of people**

100%   7 bil.
                    Share above $30 a day   Number above $30 a day
80% $10–30 a day   6 bil.
                                                                        $10–30 a day
         $5.50–10 a day   5 bil.
60% $3.20–5.50 a day   4 bil.
                                                           $5.50–10 a day
         $1.90–3.20 a day   3 bil. $3.20–5.50 a day
40%
                                                   2 bil. $1.90–3.20 a day
         $1–1.90 a day
20%   1 bil. $1–1.90 a day
         Share below $1 a day   0   Number below $1 a day
0%
  1981 1985 1990 1995 2000 2005 2010 2017   1981 1985 1990 1995 2000 2005 2010 2017
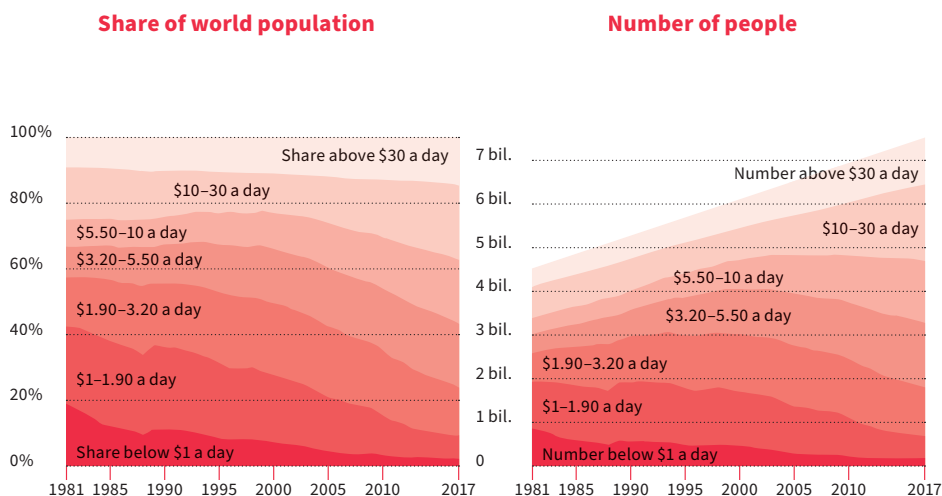
Figure 4. The share and number of people globally living below different poverty thresholds. Source: PovcalNet (World Bank). Note: Poverty at each threshold is defined as living with per capita household consumption or income below the indicated level, measured in international-$ at 2011 PPP prices. International dollars are adjusted for inflation and for price differences across countries.

However, in making use of higher poverty lines, we should not lose sight of what is happening to the very poorest people in the world. Figure 4 also shows the extent of global poverty as measured against a $1 a day line—far beneath the IPL. In the years running up to 2017, the number of people living below this ultra-low poverty line had stopped falling altogether—with around 170 million stuck in the very deepest poverty.[12] As development economists have emphasised for some time, the very poorest people in the world have seen next to no improvement in their material living conditions in recent decades (Ravallion 2016b) (Lakner and Milanovic

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[12] There are some caveats concerning the estimation of very low poverty lines using the World Bank's methodology. For some countries, including China, poverty estimates are derived from fitting an assumed functional form to grouped data, rather than from 'micro-data' concerning individual households. These estimates become less precise in the tails of the distribution. Secondly, since within income surveys a certain proportion of households typically report having zero incomes, this can make comparisons across countries using income and consumption surveys less meaningful when considering very low poverty lines. However, neither issue appears to be of much concern here. Overall, 150 million of the 174 million people estimated to be living on less than $1 a day in 2017 in the World Bank data were in sub-Saharan African countries. These countries make use of consumption surveys and, as a regional aggregate, saw a $1 a day poverty rate of 14% (i.e., the line does not fall into the tail of the distribution).

2016). This fact is surely one of the biggest development failures of our time, and yet it is not as widely known as it should be. A big part of the reason why this issue does not receive the attention it deserves is that the international poverty line of $1.90 is too high for this fact to be seen.

Poverty metrics have several purposes. One is to express a social standard concerning the level of income needed to lead a decent life. Yet, another is to specify a target for progress, such as the Sustainable Development Goal to end extreme poverty by 2030. In seeking to understand the evolution of living standards across the world, however, it is clear that we need to consider multiple poverty lines that make visible important differences in the trends concerning the poor, the extremely poor, and the very poorest.

3. Evidence on the Incomes of the Past

It is only from the 1980s that the coverage of household surveys is considered to be sufficient for reliable global poverty estimates based on survey data.

Can we know anything about global poverty in earlier decades, or even the distant past?

Thanks to the work of historians, we can. In Section 4, we present estimates of how the extent of poverty globally has changed over the last two hundred years. The estimates are based on a 'national accounts' approach in which data on average incomes available in the national accounts—GDP per capita—are combined with data on the extent of inequality in each country. It is a method that has been used to investigate global poverty trends both for recent decades and for the distant past.[13]

For recent decades, the necessary data on average incomes are available from official national accounts data, while the inequality data are based on the kind of household surveys discussed in the previous section. However, in order to apply this approach to earlier periods, we must rely on the work of economic historians who have produced reconstructions of GDP per capita and estimates of inequality for a range of different countries from available historical sources.

There are, unsurprisingly, important limitations concerning the coverage, comparability, and quality of this historical data. Therefore, the historical poverty estimates provided at the end of this section should be treated as offering a broad

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[13] For global poverty estimates for recent decades using the national accounts, see Pinkovskiy and Sala-i-Martin 2016. For historical estimates, see (Bourguignon and Morrisson 2002; Ravallion 2016b).

indication of global trends, rather than very precise estimates for any given point in time.

However, here too, it is important not to overexaggerate the uncertainties. In this section, we discuss the evidence on average incomes and inequality on which our long-run poverty estimates rely, and how their limitations might bias the results. The limitations are real. However, they do not undermine our ability to say a good deal about the broad trends in poverty across the world over the last two hundred years.

3.1. Historical Data on GDP per Capita

We can learn a lot about the living conditions of people in the past by knowing how average incomes have changed. Thanks to the work of economic historians, who have been able to reconstruct historical estimates of GDP per capita, we have a good idea about the evolution of average incomes for many countries in the world.

How do economic historians estimate incomes in the distant past?

In broad terms, the strategy is to extend the system of national income accounting that countries use today to estimate GDP back to earlier periods. In the absence of complete data collected at the time, researchers have to bring together what evidence they can from historical sources. However, the basic principles are the same. Here, we discuss three key principles on which historical national accounts data are based.

One very important principle to bear in mind is the fundamental identity behind all national accounts: 'Within the methodological framework provided by national income accounting, the estimation of GDP can be approached in three different ways, via income, expenditure and output, all of which ought to yield broadly similar results'(Broadberry et al. 2015, p. xxxii).

For historical estimates, the output approach is often considered the more reliable in practice. Depending on the evidence available, however, information on incomes and expenditure are also used, and all three approaches can provide benchmarks to cross-check the plausibility of estimates.

A second point is that these data relate to real incomes: the figures are adjusted for inflation using available data on the prices of goods and services over time. It is straightforward to compare material prosperity over time relative to goods which remained relatively unchanged over the course of history—economic historians can track the affordability of products such as bread, shirt, beer, nails, meat, books, or candles over time.

This, however, is not easily possible when entirely new products were introduced or when the quality of products and services changed substantially. Many of the

most valuable goods today were not available at all in the past: no king or queen had access to antibiotics, they had no vaccines, no comfortable transport in trains or planes, no electronic devices, no computers, and no light at night.

While modern national accounting practices attempt to take the innovation of new products and changing the quality of existing products into account, there is limited scope to address this in historical accounts. It is important to remember that, no matter how high someone's income might have been in the distant past, some of the goods you might value the most—or would value when you fall ill—were not available at all.[14]

A third key principle is that these estimates of GDP do not just concern the amount of money people had in the past or only the value of goods purchased in the market. This is a common misunderstanding of historical research. Over the last two hundred years, there has been a major shift from people farming for their own consumption to people working for a wage and purchasing goods in the market. Historians of course know about this historical change and take it into account in their analysis of how global prosperity changed. In the important case of subsistence farmers, the value of the food they produce represents both the economic output of the activity and the income received by the farmer. Consumption of that produce then represents a form of expenditure, as it is using up part of the farmer's income.

This issue is not just of importance for historical estimates, but it is also of central relevance today, given the importance that food produced at home, or otherwise received in kind, continues to play in the life of the rural poor, especially in low-income countries. Accordingly, these flows are accounted for in national accounts—both in the official data compiled today and in historical reconstructions.

The extensive work carried out by Broadberry et al. (2015) to produce the historical GDP per capita series for England and the UK, shown in Figure 5, serves as a good illustration. It is difficult to convey the level of detail that is considered in such estimates in a short overview such as this one, but a passage on agricultural output provides some insight.

> [The output method] has entailed, first, estimating the amounts of land under different agricultural land uses . . . and, then, deriving valid national trends from spatially weighted farm-specific output information on cropped areas and crop yields and livestock numbers and livestock yields... The

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[14] To some extent, the opposite problem also exists, and some goods that were available in the past—such as slaves—are not available today. But this is a much rarer problem.

latter task is further complicated by the need to correct for data biases towards particular regions, periods and classes of producers.
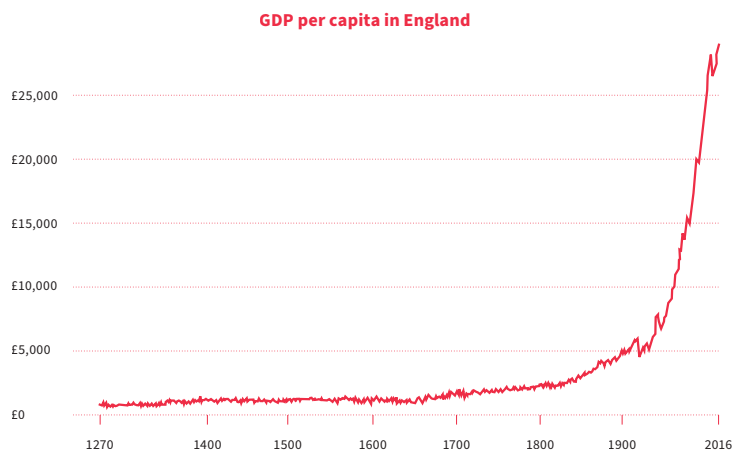
(Broadberry et al. 2015, p. xxxv)

GDP per capita in England

Figure 5. GDP per capita in England, 1270–2016. Source: Broadberry et al. (2015) via Bank of England (2017). Note: Data refers to England until 1700 and the UK from then onwards. Adjusted for inflation and measured in British pounds in 2013 prices.

Hundreds of datasets on agricultural outputs are involved in producing these estimates of agricultural production, themselves built upon a substantial body of historical research. To this is added estimates of the output of industry and services in order to yield a measure of aggregate GDP.

There are two key takeaways. First, that historical reconstructions of GDP are the outcome of decades of important academic work. Second, these represent estimates of total production, not just that part of production sold on markets.

The Evolution of Average Incomes over the Long-Run

In order to produce the global poverty estimates presented at the end of this section, we have relied on the Maddison Project's database of historical GDP per capita series for different countries (Bolt and van Zanden 2020).

This database brings together the research efforts of a huge range of country specialists, including the work on England just discussed. In different countries, researchers employ different methods, depending on what historical evidence is

available and is most reliable. In addition to being adjusted for inflation over time, the series in this dataset are adjusted to account for price differences across countries.[15]

Figure 6 shows GDP per capita since 1820 for different world regions and for the world as a whole, as constructed from the Maddison database. Globally, average income per person has increased by roughly a factor of ten over this period. It is worth keeping in mind that this change has occurred while the world population increased fivefold. As we will show below, this rise in the average global income generated a substantial fall in the share of the world population living in poverty over the last two hundred years.

The extent of poverty is not determined solely by average incomes—poverty will be more or less prevalent depending on how equally or unequally incomes are distributed in a country. However, average incomes play a hugely important role, and they set boundaries on what is possible for poverty. If the average income in a country is below the poverty line, so too will be the incomes of the vast majority of people, irrespective of the level of inequality.

This basic but important fact can be appreciated by comparing the regional GDP per capita estimates shown in Figure 6 with the regional distribution of extreme poverty found in the World Bank's estimates based on survey data, as shown in Figure 2. Regions with a high level of GDP per capita have few people in extreme poverty. Regions where GDP per capita was growing rapidly experienced a decline in the number of people in extreme poverty.

Just as the increase in the global average income over the last two hundred years is clear from historians' work, so too is the increase in global inequality. Whilst many Western European countries, as well as the US, Australia, and Canada, experienced rapid economic growth throughout the 19th and 20th centuries, incomes in Asia and Africa stagnated. Exploitative colonialism is one of the institutions to blame for these poor development outcomes (Acemoglu et al. 2001). It was only in the second half of the 20th century that many low-income countries began to see growth rates comparable to, and eventually even higher than, those seen in rich countries. Many

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[15] Adjusting for price differences across countries is a difficult task even for recent years (for a discussion, see Deaton and Heston 2010). Moreover, over extended periods of time, inconsistencies can arise between evidence concerning the level of inflation in two countries and comparisons of their price level at two points in time, as the composition of the goods and services produced and consumed in the countries evolves. This is all the more challenging for the distant past given the absence of very detailed price data. Nevertheless, different approaches are available to economic historians to gauge and cross-check relative price levels across countries in the distant past. These methods are discussed in detail in the paper accompanying the 2020 release of Maddison Project dataset (Bolt and van Zanden 2020).

countries, particularly, but not only, in Africa, are still being left behind in terms of economic prosperity as Figure 3 shows. It is in these countries that most of the world's extremely poor populations are to be found today.
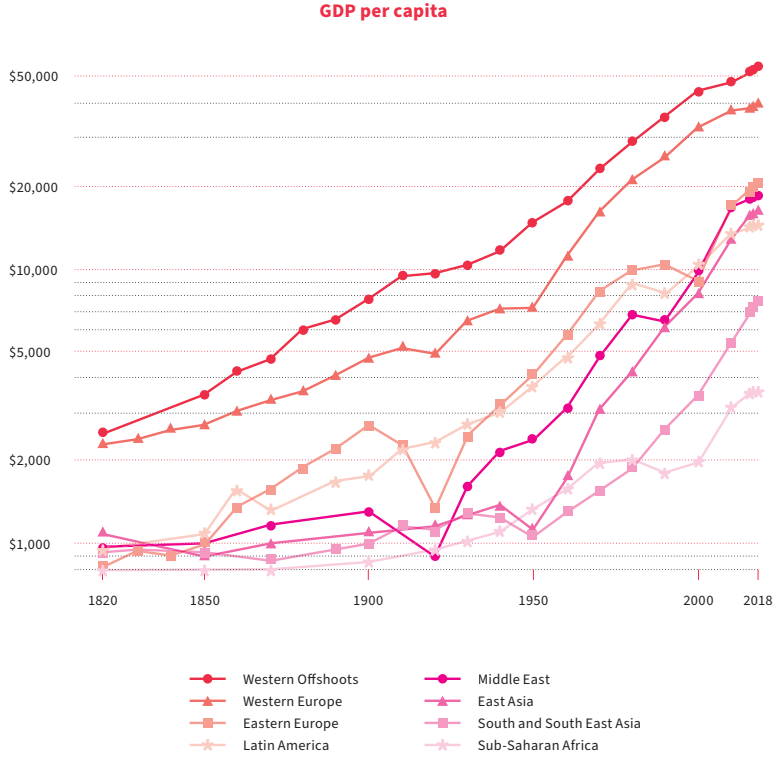
GDP per capita

Figure 6. Regional and world GDP per capita, 1820–2018. Source: Maddison Project Database 2020 (Bolt and van Zanden 2020) Note: GDP per capita adjusted for price changes over time (inflation) and price differences between countries. It is measured in international-$ in 2011 prices. The 'Western Offshoots' region refers to the US, Canada, Australia, and New Zealand.

3.2. Historical Inequality Data

GDP per capita is the first relevant metric from which we can learn about living standards in the past; the second one is the level of inequality. In a very unequal country, the majority of people are substantially poorer than indicated by the average income, while in a country with low inequality, the average is much more reflective of the incomes typical across the population.

In order to estimate the extent of poverty from data on GDP per capita, we also need data on inequality.

For recent decades, the data on inequality can be obtained from the kind of household surveys discussed in the previous section. However, for earlier periods, historians must rely on a range of historical sources: 'social tables' that document the average incomes of different social classes; census data; top income shares derived from tax records; evidence on wage levels; in some cases, information regarding the extent of inequality in adult heights.[16]

The inequality data used in the global poverty estimates presented below are taken from a historical dataset produced by van Zanden et al. (2014), which combines estimates based on the range of sources just described. For more recent decades, we rely on the Global Consumption and Income Project (GCIP) dataset which provides estimates of inequality based on household survey data.[17]

Figure 7 plots Gini coefficients from these two data sources for a set of benchmark years along with unweighted and population-weighted averages. Whilst there are clear differences across individual years, we observe no overall trend over the last two centuries: the average across all observations in each period varies between 0.35 and 0.5, with the bulk of observations falling between 0.25 and 0.6.

There are, however, important limitations concerning the comparability and quality of these estimates that make such trends highly uncertain.

Whilst each data point refers to an estimate of the level of income inequality, the measure of welfare in the underlying source varies. This includes incomes assessed before tax, incomes after tax, wage income, and consumption expenditure. Both datasets use statistical models to try to standardise the data in certain ways, but this is inevitably partial and imprecise.[18]

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[16] For a discussion of early inequality estimates and the sources of data that these can draw on, see van Zanden et al. (2014 Data Appendix) and Milanovic et al. (2011).

[17] The data are made available at http://gcip.info/ (accessed on 9 September 2021). For a study introducing the dataset and the sources and methods behind it, see Lahoti et al. (2016).

[18] Both data sources adjust expenditure survey data using a statistical model to try to estimate what the level of income inequality would have been. In the case of van Zanden et al. (2014), they also adjust data on net incomes in the same way to be more in line with a measure of gross income inequality. In an online data appendix (https://ourworldindata.org/history-of-poverty-data-appendix (accessed on 9 September 2021)), we provide alternative estimates for global poverty that instead make use of GCIP data where the standardisation is carried out in the opposite direction—towards a consumption basis—and also World Bank data that do not attempt to standardise income and consumption surveys in this way. Whilst there are notable differences in the poverty estimates that these different datasets yield, it does not affect the broad long-run trends that are our focus here.

Figure 7. Gini coefficient of income, 1820–2014. Source: van Zanden et al. (2014) and Global Consumption and Income Project (GCIP). Note: The GCIP data shown are survey-year observations that fall within two years of the benchmark year.

There are also many sources of potential bias and uncertainty concerning the individual estimates. As will be discussed in more detail below, this is true even of modern survey data. However, it is all the more true for earlier inequality estimates given the limitations of the underlying data. One particular concern of the historical data is that the value of subsistence farmers' production may not

be properly accounted for in historical sources and early household survey data, implying that earlier estimates of inequality could be overstated.[19]

How Sensitive Are Poverty Estimates to Different Assumptions about Inequality?

These limitations mean that there is substantial uncertainty surrounding historical poverty estimates for any given country or any given year. However, for the following reasons, our broad understanding of the changes in global poverty over the last two centuries is not much impacted by this uncertainty.

Firstly, it is important to bear in mind that, although differences between richer and poorer individuals within countries are substantial, they are overall much smaller than the differences we see across countries. Milanovic (2015) shows that around two-thirds of the income differences we see across individuals globally can be predicted just by knowing the country in which they live. It is the very large differences in average incomes we see across richer and poorer countries that contribute the most to overall global inequality today.[20]

Analogous considerations apply over time too. As we saw from the historical data on GDP per capita, the extent of global inequality across countries today is the consequence of substantial economic growth having been achieved in some parts of the world but not in others. The kind of income you receive in your life is greatly determined not just by *where* you were born but *when*. These two factors have a much more decisive influence than the relative position you occupy within your society.

This is not to say that reducing inequality cannot play a vital role in reducing poverty. The forward projections of global poverty prepared for the World Bank by Lakner et al. (2020) find that reductions in inequality compare favourably with assumptions about higher growth rates in their ability to reduce future extreme poverty.[21] Whilst recent trends suggest the world is far from being on track to achieve

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[19] We thank an anonymous reviewer for drawing our attention to this potential concern. An assessment of this issue could not be made within the scope of this chapter. As we discuss below, even after allowing for a wide error margin on the inequality estimates, the broad long-run trends we focus on are not affected in any substantial way.

[20] In a population-weighted regression of (within-country) income percentiles derived from household survey data, Milanovic (2015) finds that 66% of the variation can be explained by country controls alone (Milanovic 2015, Table 2). Using an inequality measure that allows for a decomposition of global inequality—the extent inequality across all the world's citizens—into a within-country and between-country components, he finds that in 2008, 70% of global inequality related to differences between countries. See also Lakner and Milanovic (2016) and Milanovic (2020) for more recent estimates.

[21] 'A 1% annual decline in each country's Gini index is shown to have a bigger impact on global poverty than if each country experiences 1 pp higher annual growth rates than forecast' (Lakner et al. 2020).

the goal of eliminating extreme poverty by 2030, their projections suggest that this goal at least 'becomes more viable by reducing inequalities'.

However, the scale of economic growth over the last two hundred years has been large enough such that the differences in poverty generated by shifting from a high- to a low-inequality setting are comparatively much smaller. To illustrate this point, Figure 8 plots modelled income distributions based on the GDP per capita of China in 1820 and 2017. It shows the distributions under three different inequality scenarios. The middle panel shows the distributions using the estimates of inequality found in the datasets just described. The top panel shows a low-inequality scenario in which a Gini coefficient is 0.25 is assumed in both years. The bottom panel shows a high-inequality scenario in which a Gini coefficient of 0.65 is assumed in both years.[22]

The shaded areas to the left of the $2 a day line show the share of the population with incomes falling under this threshold. The 14-fold growth in GDP per capita between 1820 and 2017, from $882 to $12,734, implies a major decline in poverty measured against a $2 a day line, whatever we assume about inequality. In all three scenarios in 1820, around half or more of the population in China fell below this threshold.[23] Additionally, in all three scenarios in 2017, the vast majority fell above this threshold.

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[22] Here, we assume that incomes follow a lognormal distribution. This is a common assumption made by researchers modelling income distributions. This distribution offers a good approximation of the bulk of the distribution observable in survey data, though it can be less accurate in the tails. See (Cowell 2011, pt. 4.4, for a discussion).

[23] The high-inequality scenario for 1820 is not a plausible one at such a low level of average income: it results in a distribution in which a substantial share of the population falls below a credible level of subsistence. On this subject, see the discussion of Milanovic et al. (2011) on the 'inequality possibility frontier'.
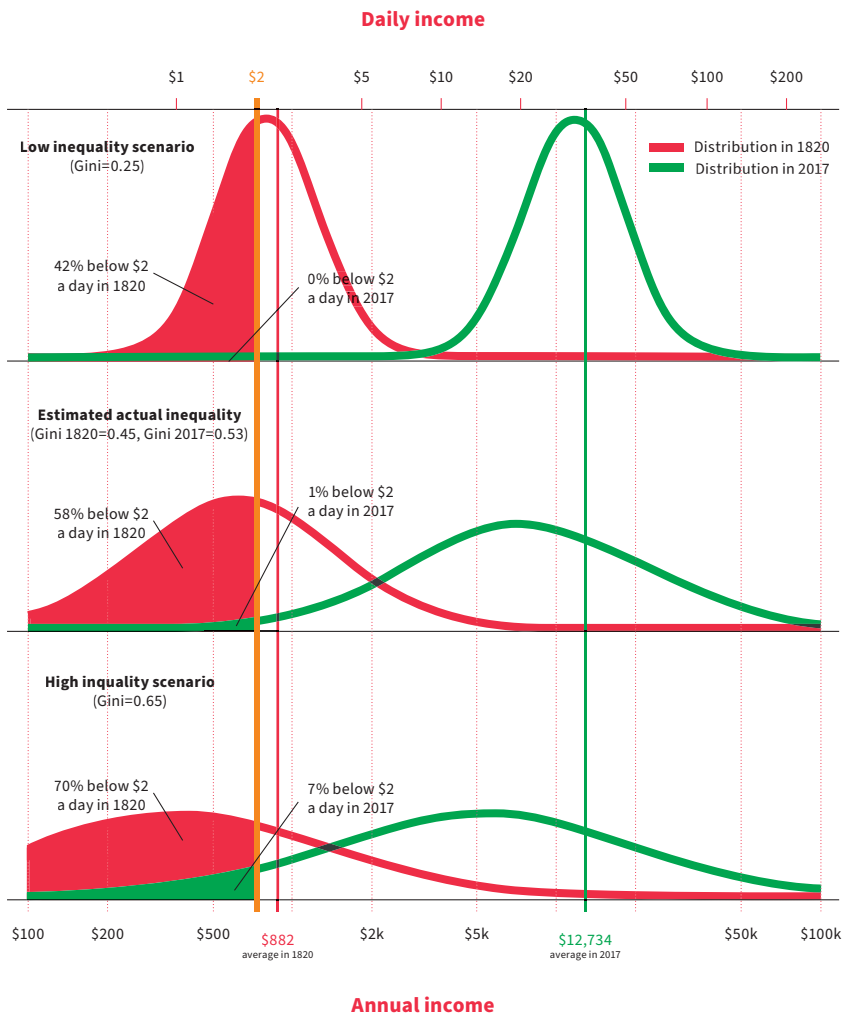
Daily income

Low inequality scenario
(Gini=0.25)

42% below $2
a day in 1820

0% below $2
a day in 2017

Distribution in 1820
Distribution in 2017

Estimated actual inequality
(Gini 1820=0.45, Gini 2017=0.53)

58% below $2
a day in 1820

1% below $2
a day in 2017

High inquality scenario
(Gini=0.65)

70% below $2
a day in 1820

7% below $2
a day in 2017

$100 $200 $500 $882
average in 1820

$2k $5k $12,734
average in 2017

$50k $100k

Annual income

$1 $2 $5 $10 $20 $50 $100 $200

Figure 8. Modelled distribution of income in China in 1820 and 2017 under different inequality scenarios. Source: Estimates of GDP per capita are taken from Maddison Project Database 2020 (Bolt and van Zanden 2020). Estimates of inequality are taken from van Zanden et al. (2014) (1820 value) and Global Consumption and Income Project (GCIP) (2017 value). Note: The incomes shown are adjusted for price changes over time (inflation) and price differences between countries. They are given in international-$ in 2011 prices. The Gini coefficient used for the 2017 distributions relates to a 2014 consumption survey adjusted by GCIP using a statistical model to bring the estimate more in line with an income welfare concept.

36

The fact that the 1820 and 2017 distributions overlap so little, even in a very high inequality scenario, shows us that these points are not specific to a particular poverty line. Any poverty line under which a substantial proportion of the 2017 population lived is a poverty line that almost the entire population in 1820 must have lived under. That is true whatever we assume about inequality for either period.

Additionally, since between these two periods China experienced income growth broadly in line with the global average, what is true for China is also true for the world. In an online data appendix, we provide hypothetical estimates of global poverty applying such high- and low-inequality scenarios to all countries.[24] Even allowing for such large margins of error does not substantially affect our understanding of the evolution of global poverty over the last two hundred years.

3.3. Incomplete Coverage in Historical Data

One additional difficulty in arriving at global poverty estimates is the incomplete coverage of the available historical data. For a number of countries, historical estimates for GDP per capita or inequality are either missing for particular years or else are lacking altogether.

In terms of country observations, the early inequality data are particularly sparse. For the early 19th century, the dataset of van Zanden et al. (2014) includes observations for only around 40 countries. However, this includes many of the most populous countries, such that estimates covering around three-quarters of the world's population are available. To produce our estimates of global poverty, countries with missing data for a particular year are attributed the average Gini observed in the region or, in the case of the successor states of the USSR and Yugoslavia, the average within the bloc. While this will not always be an accurate assumption, it will not have a substantial influence on the resulting global trends: this method is applied to a relatively small share of the world's population and, as we previously discussed, in most cases, the overall trends are robust to widely different assumptions concerning inequality.

The available GDP per capita data are more complete but again with notable gaps. To produce our global poverty estimates, we have interpolated between observations, assuming a constant growth rate, and in a number of cases have

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[24] https://ourworldindata.org/history-of-poverty-data-appendix (accessed on 9 September 2021).

extrapolated backwards by applying average growth rates observed within the region (or again, the former bloc).[25]

In the case of sub-Saharan Africa, evidence concerning the level of incomes in the distant past is particularly poor. Since coverage prior to 1950 is especially limited within the Maddison database, our poverty estimates instead make use of the economic growth rates for African countries produced by Prados de la Escosura (2012). These estimates are based on inferring total output per head from available records on international trade, and Prados de la Escosura is very explicit about the uncertain nature of the resulting 'quantitative conjectures'.

Again, it is important to put this uncertainty in context. The available evidence concerning incomes of the past does not suggest that people in Africa in the 19th century were much richer than Europeans at the time. Additionally, what we know about living conditions more broadly supports this. Riley (2005) provides estimates of life expectancy for all world regions and suggests that Africa, with a life expectancy of 26 years in 1770, was the worst-off region in this respect (Riley 2005). Finally, the population of sub-Saharan Africa accounted for around 6% of the world population in the 19th century. Uncertainty concerning the level of incomes in this region in the past can only have a limited impact on the resulting global estimates.

Overall, whilst our knowledge of the incomes of the distant past is very far from complete, the bulk of the world's population over the last two hundred years lived in countries that have been studied extensively by economic historians. Moreover, as we demonstrate in an online data appendix, the fact that incomes today are estimated to be several times larger than those of the past means that the broad long-run trends that are the focus of this chapter are robust to wide margins of error.[26] The historical data, though incomplete, are still sufficient to provide us an overall idea of how poverty has evolved across the world over the last two hundred years.

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[25] The procedure is required for around 10–15% of the world's population between 1850 and 1950, though this rises to 36% in 1820. From 1950 coverage increases markedly in the Maddison Project Database, and from this point, it is only former USSR and Yugoslavia member states for which this method must be applied.

[26] https://ourworldindata.org/history-of-poverty-data-appendix (accessed on 9 September 2021).

4. Historical National Accounts-Based Estimates of Global Poverty

4.1. Comparing Two Approaches to Global Poverty Measurement

Combining the available historical data on GDP per capita and inequality previously described allows us to estimate the extent of poverty across the world over the past two hundred years. The estimates from this 'national accounts' approach to global poverty measurement are presented and discussed below.

However, before doing so, we discuss the important ways in which this approach differs from the estimates based on household surveys outlined in Section 2. Estimating the extent of global poverty based on household surveys is used by international organisations to measure progress towards the SDG goal of eradicating extreme poverty by 2030. Therefore, it is important that we understand how our historical poverty estimates, achieved via a different set of methods, relate to these more familiar poverty estimates.

4.1.1. How Do the Two Approaches Differ?

The key difference between the household survey- and national accounts-based approaches relates to the different average incomes to which the poverty estimates are anchored: whether the average reported by the surveyed households or a national accounts aggregate such as GDP per capita. The averages reported in survey data are typically lower—in some cases, much lower—than the national accounts aggregates. Poverty estimates produced using the national accounts approach accordingly result, therefore, in substantially lower poverty estimates. In many cases, national account aggregates have grown at a faster rate than the survey data averages, and where this occurs, it results in an increasing divergence between the two sets of poverty estimates over time. Pinkovskiy and Sala-i-Martin (2016), for instance, calculate global poverty rates according to the two approaches and find that survey-based estimates are four to five times higher than national accounts estimates and fell less rapidly between 1992 and 2010.

There are several reasons for the discrepancy between national accounts and survey means (see Deaton 2005 for a comprehensive discussion).

Firstly, there are conceptual differences in what is being measured in each case. GDP includes many items that are typically not measured in household income surveys, such as an imputed rental value of owner-occupied housing, the retained earnings of firms, and taxes on production, such as VAT. The gap is even larger when GDP is compared to surveys of household consumption—the latter concept excluding both investment expenditure and government expenditure on public services such

as education and health. Other aggregates beyond GDP are available in the national accounts that are more comparable to the concepts applied in household income and consumption surveys. However, important differences still remain even here. For example, in addition to imputed rents, imputations for the value of certain financial services, such as bank accounts, are included in aggregate household consumption measured in national accounts, with no equivalent for these items recorded in the survey data. In many countries, the consumption of nonprofit institutions serving households (NPISH) is included as part of household consumption within national accounts but not within household surveys.

On top of these conceptual differences is a range of mismeasurement problems that affect both sets of data. Whilst in principle, national accounts aggregates should include the value of unreported economic activity in the informal or secondary economy—including food grown for households' own consumption—in practice, compilers of national accounts face particular difficulties in making such an assessment. Estimates of total agricultural output are often derived by multiplying acres under cultivation by a measure of agricultural productivity—a process that can offer a distorted view where out-of-date assumptions concerning these are applied (Deaton 2005). As Ravallion (2003) explains, incomplete measurement of non-exchanged output or that of informal employment can not only affect estimates of the level of total output, but also the trends: "As an economy develops, the household-based production activities that are not measured in the [national accounts] become "formalised," imparting an upward bias to measured NAS growth rates of output".

Since these activities are thought to be better captured by survey data, this may contribute to the growing discrepancy observed between survey and national accounts means. Survey data are, however, also subject to a number of different sources of measurement error. Although there are potential problems along the income distribution, much of the concern relates to how well incomes or consumption at the top of the distribution are captured. There is evidence, for instance, suggesting that richer people are less likely to respond to surveys and that this may bias downwards both the level and rate of growth of average incomes or consumption reported in survey data (Deaton 2005; Korinek et al. 2006). There is also the problem of the considerable heterogeneity in the survey methods applied across countries and years which can, in some instances, have a very significant impact. Whilst this is unlikely to contribute to the overall divergence in trends with national accounts data, it is a source of substantial 'noise' in the resulting poverty estimates (Karshenas 2003).

The fact that both sets of data suffer from known measurement problems has resulted in some disagreement among poverty researchers as to which of these approaches, or what combination of them, offers the most reliable picture about the evolution of global poverty (Pinkovskiy and Sala-i-Martin 2016; Chen and Ravallion 2010; Karshenas 2003).

Pinkovskiy and Sala-i-Martin (2016) point to the fact that nighttime lights, as viewed in satellite images, are much more closely correlated with GDP per capita than with survey means. They argue that this provides independent evidence that national accounts offer a more accurate picture of the true evolution of average incomes and that, consequently, poverty estimates should be anchored more closely to these means. Even if national accounts data do offer a truer picture of the average level of income or consumption, the fact that much of the concern about mismeasurement in survey data relates to the upper end of the distribution makes many researchers sceptical of the uncritical use of national accounts means for the purposes of poverty measurement (Atkinson 2019, pp. 139–43; Chen and Ravallion 2010; Deaton 2005). Since these measurement errors in the survey data are likely to affect not only estimates of the mean but also of the extent of inequality, in making use of the latter but rejecting the former, there is arguably some inconsistency in the national accounts approach. Korinek et al. (2006) provide empirical evidence for the United States that highlights this point. By comparing survey response rates across geographic areas, they are able to make estimates of the relationship between a household's income and their likelihood of participating in an income survey. Correcting for this differential nonresponse 'appreciably increases mean income and inequality, but has only a small impact on poverty' (Korinek et al. 2006).

Our use of the national accounts method to produce the global poverty estimates provided below is driven by our objective of arriving at a broad understanding of poverty trends over the very long run, rather than any assessment of the relative merits of this method for measuring global poverty today. However, amidst this debate, it is important not to overexaggerate the uncertainties involved and lose sight of the key points on which both approaches agree: there have been substantial reductions in the share of the world's population living in poverty in recent decades across a wide range of different poverty lines.

In addition to helping to pinpoint their respective flaws, the conjunction of the two different approaches increases the confidence of poverty researchers that the share of people below a wide range of poverty lines has indeed substantially decreased.

4.1.2. A Comparison of Recent Trends: Poverty Estimates Based on National Accounts vs. Poverty Estimates Based on Survey Data

With this in mind, before presenting our historical estimates of global poverty over the last two hundred years, we first investigate how the estimates based on national accounts compare to the household survey-based estimates made by the World Bank for recent decades in which both are available.

In making a comparison of trends across the two approaches, it is important to bear in mind that incomes have risen at different rates at different points in the global distribution (Lakner and Milanovic 2016). We noted this earlier when examining the different poverty lines used by the World Bank: the share living below the international poverty line fell faster than the share below higher poverty lines. However, this means that given a difference in the *level* of poverty estimated by the two different approaches, part of the difference in the *trends* we observe is due to a given dollar value poverty line tracking the evolution of a different part of the global distribution in each case.

In order to separate this factor from the concerns of a growing divergence between mean incomes in household survey and national accounts data, we compare the two sets of poverty estimates in two different ways.

Figure 9 shows a comparison of the global poverty rates according to four different poverty lines—$1.90, $5.50, $10, and $30. Figure 10 shows the share of the population falling below an income corresponding to the level that marked the bottom quarter, the median, and the top quarter of the distribution in 1980 (in the case of the World Bank data, the earliest year, 1981, is used as the reference). In the World Bank estimates, these thresholds were $1.19, $2.40, and $10.40 a day. Within our national accounts-based estimates, these thresholds lie at $3.05, $6.48, and $23.77, respectively—between two and three times higher.
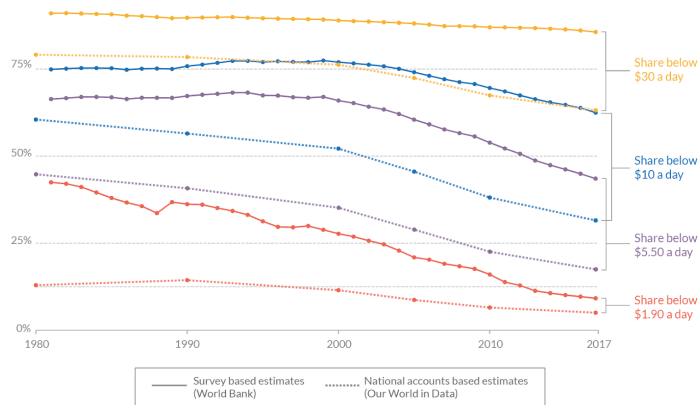
Figure 9. The share of world population below different poverty thresholds, according to survey- and national accounts-based estimates. Source: Survey-based estimates from PovcalNet (World Bank); authors' own national accounts-based estimates based on GDP per capita data from Maddison Project Database 2020 (Bolt and van Zanden 2020) and data on income inequality from Global Consumption and Income Project (GCIP).
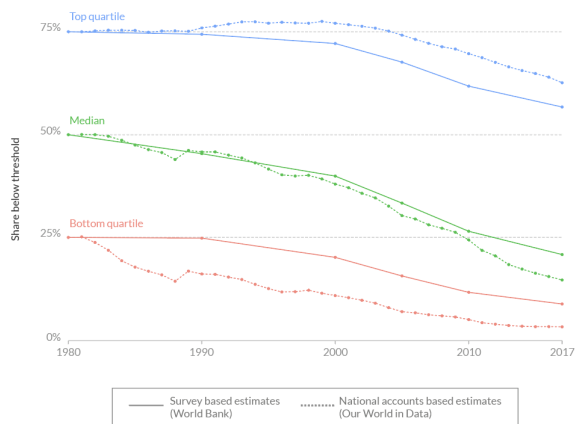

Figure 10. The share of world population below the quartile thresholds in 1980/81, according to survey- and national accounts-based estimates. Source: Survey-based estimates from PovcalNet (World Bank); authors' own national accounts-based estimates based on GDP per capita data from Maddison Project Database 2020 (Bolt and van Zanden 2020) and data on income inequality from Global Consumption and Income Project (GCIP).

We see in Figure 9 that the headcount ratios estimated using the national accounts approach are indeed considerably lower than the World Bank estimates, in line with the discussion in the previous section. Global poverty measured against a $1.90 a day line following the national accounts method was less than a third of the level of the survey-based estimates in 1980/81 (red lines). This gap subsequently narrowed considerably, although, from 1990, the two estimates fell in proportional terms at roughly the same rate—both falling by slightly more than half until 2017. The size of the gap between the two sets of estimates, and how it changes over time, is somewhat different at each poverty line.

However, a notable observation from Figure 9 is that where the trend lines pertaining to different poverty thresholds happen to fall close to one other—such as the survey estimates relating to the $1.90 line (solid red) and the national accounts estimates for $5.50 (dotted purple), or likewise the estimates for $10 (solid blue) and $30 (dotted yellow)—the trends move much more in step. Whilst poverty lines defined in terms of a given dollar value yield very different estimates across the two sets of data, poverty lines defined in terms of their position within the global distribution result in much more agreement.

This observation is confirmed by Figure 10 which makes this comparison more directly. The share of people falling below the income level that marked the bottom quartile, the median, and the top quartile in 1980/81 evolved broadly similarly across both sets of data. For instance, the two approaches disagree about the global median level of income in 1980/81: it was $2.40 according to survey data and $6.50 when anchoring incomes to GDP per capita. However, both sets of estimates agree that the share of people falling below that level of income fell from 50% to around 20% in 2017. The estimates for the bottom and top quartile thresholds do not move as closely as at the median, but nor are the trends all that dissimilar. Interestingly, they diverge in different directions.

Overall, Figure 10 shows that the trends in global poverty according to the two methods are not in fact as different as one might suspect. It suggests that whilst there may be a good deal of uncertainty in the level of global poverty at any one point in time, our understanding of the key changes seen across the bulk of the global distribution in recent decades is not dependent on the choice of method.

4.2. National Accounts-Based Estimates of Global and Regional Poverty Since 1820

Figure 11 shows historical estimates of the share and number of people globally living at different income thresholds—$2, $5, $10, and $20—based on the national accounts method and data sources just outlined. All figures are expressed in 2011

international-$, so as to adjust for inflation over time and price differences across countries. A more detailed description of all the data and methods used to produce these estimates can be found on our website.[27]
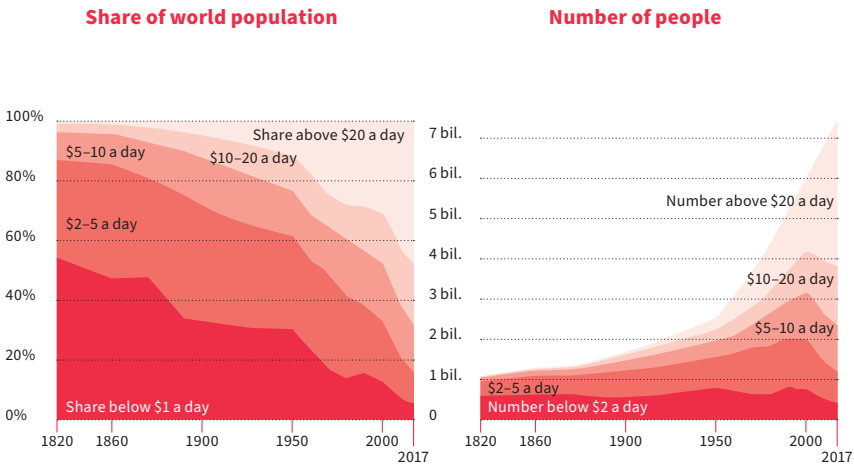

Figure 11. The share and number of people globally living below different poverty thresholds, national accounts estimates 1820–2017. Source: Authors' own estimates based on GDP per capita data from Maddison Project Database 2020 (Bolt and van Zanden 2020) and data on income inequality from van Zanden et al. (2014) and the Global Consumption and Income Project (GCIP).

What these estimates allow us to see is that declines in the share of the world's population living in poverty were not limited to the recent decades for which extensive household survey data are available. We see a more or less continuous decline in the share of the world's population below each poverty line that accelerated in the second half of the 20th century (Figure 11, left panel). As the global population rose from around 1 billion in 1820 to 6 billion in 2000, the number of people living in poverty was rising. This is true for all but the lowest threshold of $2 a day, below which the number of people stayed largely constant until very recently (Figure 11, right panel).

As in the World Bank estimates based on survey data (Figure 4), we see a further acceleration in the decline in poverty rates from around the turn of the new

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millennium. From this point, the number of people living below each poverty line began to decrease.

It is not the case that the number of poor people declined everywhere, however. Figure 12 shows the poverty rate measured relative to a $5 a day line for each region. Figure 13 shows the share of the world population falling below this threshold, where each region's contribution is shown separately.

We see from Figure 12 that, relative to this income threshold, a majority lived in poverty across all parts of the world in 1820. That is true for today's rich countries, although we see that poverty was less prevalent in Western Europe, along with its 'offshoots' (the US, Canada, Australia, and New Zealand), than in other world regions.

Regional poverty rate (less than $5 a day)
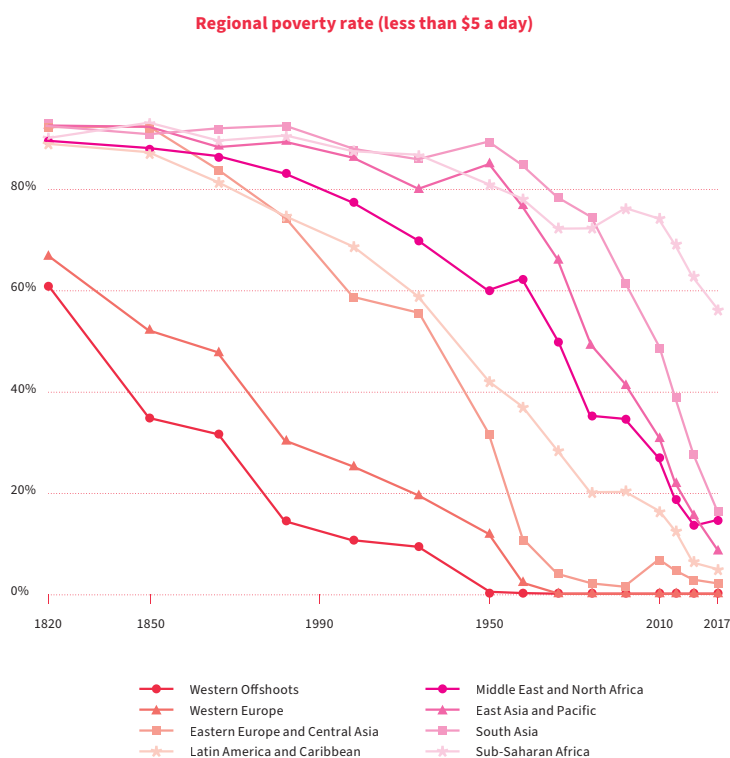
Figure 12. Share of the population living below $5 a day, national accounts estimates 1820–2017. Source: Authors' own estimates based on GDP per capita data from Maddison Project Database 2020 (Bolt and van Zanden 2020) and data on income inequality from van Zanden et al. (2014) and the Global Consumption and Income Project (GCIP).
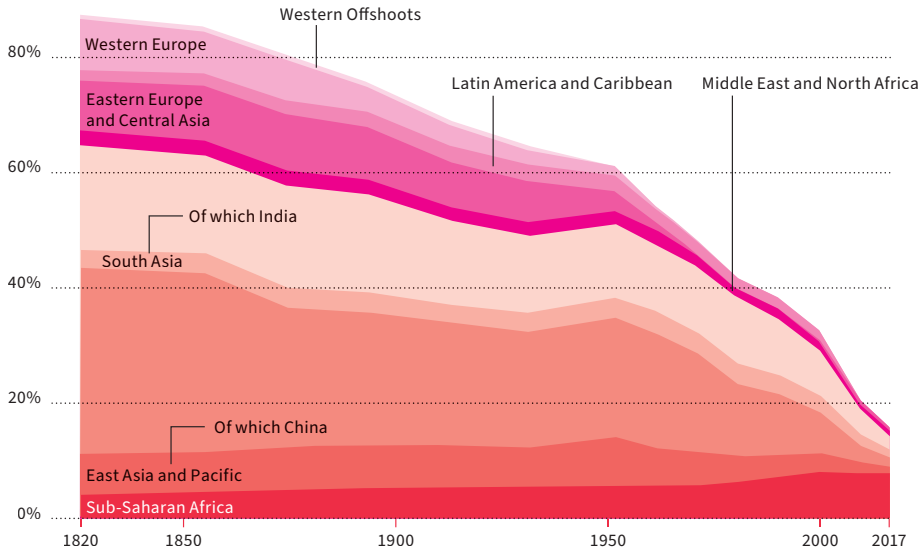
Share of world population living below $5 a day

Figure 13. Share of the world population living below $5 a day by region, national accounts estimates 1820–2017. Source: Authors' own estimates based on GDP per capita data from Maddison Project Database 2020 (Bolt and van Zanden 2020) and data on income inequality from van Zanden et al. (2014) and the Global Consumption and Income Project (GCIP).

Globally, almost 90% of the population lived under this threshold in 1820, as we can see from Figure 13. We see that the subsequent fall in the global poverty rates is owed primarily to the decreasing contributions to this total made by Western Europe, Eastern Europe and Central Asia, China, and India. In the case of Western Europe and EECA, this was due to falling poverty rates. However, in the case of China and India, poverty rates remained high. Up until the mid-20th century, their reduced contribution to the global poverty rate was due to their share in the world population declining—from more than half in 1820 to around one-third in 1950.

Until the mid-20th century, global poverty fell because the poverty rate in some regions was falling and because the population grew faster in those same regions than in the regions where incomes were stagnant. However, the growth in incomes in India and China from the mid-20th century onwards meant that, for the first time in history, progress was being made against poverty across most of the world. From this point, the decline in global poverty accelerated.

The important exception to this trend, however, is sub-Saharan Africa. Poverty rates remain high in sub-Saharan Africa following limited economic growth in the late 20th century, coupled with persistently high levels of inequality in many countries in the region. As we discussed regarding the World Bank estimates based on household survey data, global extreme poverty is becoming increasingly concentrated in sub-Saharan Africa. What this long-run view makes very clear, however, is that the low and stagnating incomes endured by a large share of the population in many sub-Saharan African countries should not in any way be accepted as inevitable. Persistently high levels of extreme poverty were once the rule but are now the exception.

4.3. The History of Extreme Poverty in the Last Two Centuries: Combining Survey and National Accounts Estimates

In this chapter, we have presented evidence on the history of poverty based on two different methods. We have referred to these as survey and national accounts estimates, reflecting the different average incomes to which the estimates are anchored: in the first case, to household survey data, and in the second case, to average incomes observed in national accounts or historical reconstructions of this.

On the one hand, we have pointed to many sources of uncertainty in estimating global poverty. For recent decades, this is underlined by the differences in the poverty estimates arrived at by these two methods. There are known sources of mismeasurement in both approaches and questions remain as to how best to combine all the evidence available from national accounts and survey data. Estimates for the distant past, relying on reconstructions from historical sources, are no doubt more uncertain still.

On the other hand, we have argued that this uncertainty must not be overstated. For recent decades, both approaches show substantial falls in poverty across a wide range of poverty lines. The scale of the changes seen in average incomes in many parts of the world over the last two hundred years gives us a clear indication that global poverty also fell substantially over this longer timeframe, even allowing for significant uncertainty regarding the historical data. Whilst estimates for any given point in time are highly uncertain, the available evidence consistently points to a range of trajectories that is plausible and a range of trajectories that is not.

Within this range of plausible trajectories, however, is it possible to construct a single time series for the evolution of global poverty over the long term?

Martin Ravallion's seminal book on the history and measurement of poverty features a chart that shows one possible approach to provide such a long-term

perspective (Ravallion 2016a, Figure 2.1). He presents the long-run poverty estimates of Bourguignon and Morrisson (2002), which are based on the historical national accounts method discussed above, and brings them together with data based on household surveys for the recent period. Bourguignon and Morrisson's estimates were made in relation to a poverty line set specifically so as to result in the same global extreme poverty rate as that found in survey-based estimates for an overlapping year.[28] In this way, the researchers sought to account for the 'gap' in the poverty estimates resulting from the two different sets of methods, as discussed in Section 4.1 above. Ravallion (2016a) extends this historical series for the global extreme poverty forward using the survey-based estimates published in Chen and Ravallion (2010).

That chart is reproduced here in Figure 14, using recent World Bank estimates of the share of the population living below the updated international poverty line of $1.90 per day from 1981 onwards. Prior to this, we use our own historical poverty estimates that were presented above. These apply very similar methods as those used by Bourguignon and Morrisson (2002) but make use of more recently published historical evidence on both the extent of inequality and the level of average income. As in Bourguignon and Morrisson's original study, to produce the historical estimates of extreme poverty shown in Figure 14, we set a poverty line that results in estimates that align with the survey-based data in the overlapping year.[29]

Supporting this method of combining the two sets of data is the observation made above in relation to Figure 10. There, we saw that estimates of poverty measured relative to a line anchored to a certain point in the global distribution showed similar reductions over time under both approaches. Indeed, we have shown that this was particularly true at the global median, which the extreme poverty line used in Figure 14 fell close to in 1980/81.

The series in Figure 14—as with Ravallion's original chart and any reconstruction of the history of poverty—suffers from the many uncertainties associated with the available evidence. However, the available historical evidence is clear with respect to the broad features of this trajectory: poverty levels were very high in the past, and the share of the world population living in poverty declined significantly.

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[28] Namely, the estimates of poverty measured using the '$1 a day' line found in Chen and Ravallion (2001). This relates to a $1.08 poverty line measured in 1993 prices with which the authors updated the $1 a day line given in 1985 prices.

[29] World Bank estimates of the extreme poverty rate in 1981 and 1982 were 42.4% and 42.1% respectively. We set the extreme poverty line in the National Accounts data at $5.20 (in 2011 prices). This yields a global poverty rate of 43.0% in 1980, roughly continuing the trend linearly.

Moreover, as we discuss in the following final section, this broad trend concerning *monetary* poverty is also corroborated by historical evidence concerning a range of *non-monetary* metrics.
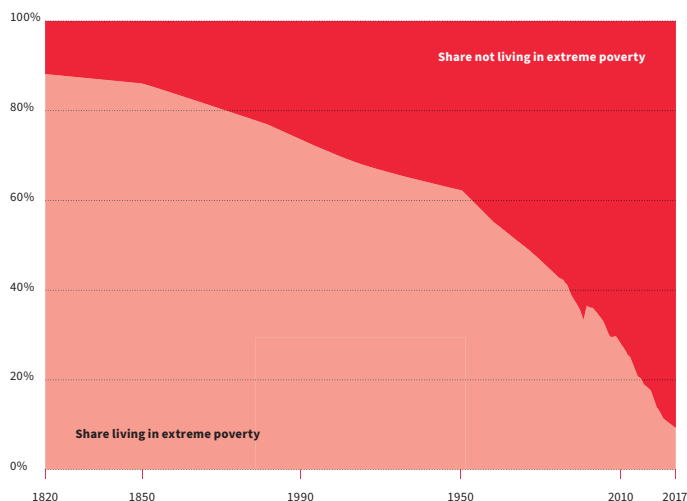

Figure 14. Share of the world population living in extreme poverty, 1820–2017. Source: 1820–1980: Authors' calculations based on Maddison Project Database 2020 (Bolt and van Zanden 2020), van Zanden et al. (2014), and Global Consumption and Income Project (GCIP); 1981–2017: PovcalNet (World Bank). Note: This series is based on the methods employed in the long-run global poverty estimates that appeared in Bourguignon and Morrisson (2002) and Ravallion (2016a). It uses a more recently published set of historical data and, for the period from 1981 onwards, more recent World Bank estimates for the share falling below the updated international poverty line of $1.90 a day.

5. Other Evidence on Historical Poverty

5.1. Other Long-Run Estimates of Monetary Poverty

Figure 15 compares our estimates of the share of the world population living in extreme poverty shown above against three other existing sets of estimates.

Our estimates are shown in red. In green are the original estimates of Bourguignon and Morrisson (2002) whose methodology we have largely emulated

in producing our historical estimates. In blue is a series produced by Moatsos (2021) that also follows a similar methodology to that described in the present chapter.[30]
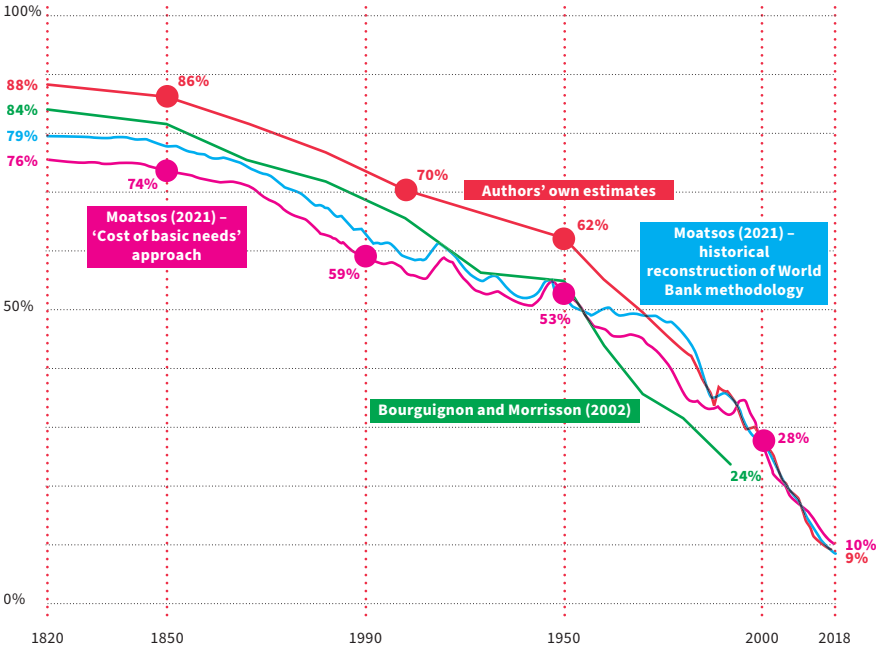

Figure 15. The share of the world population living in extreme poverty, according to four sets of estimates. Source: Bourguignon and Morrisson (2002), Moatsos (2021), and the authors' own estimates.

In pink is a second series from Moatsos (2021) that is instead based on the 'cost of basic needs' approach suggested by Allen (2017). Within this approach, incomes are measured against a poverty line that varies across countries according to the local minimum cost of meeting dietary and other basic needs.

One advantage of the approach is that it gives us an understanding of the history of global living standards in terms of a more readily interpretable definition of poverty: as recently as 1950 the majority of people in the world 'could not afford

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30   The approaches are similar in terms of the use of PPP-adjusted incomes and the use of historical national accounts and inequality data to extend estimates of the global income distribution into the past. See Moatsos (2021) for a full description of the methodology.

a tiny space to live, food that would not induce malnutrition, and some minimum heating capacity' (Moatsos 2021, p. 195).

The cost-of-basic-needs estimates are also significant in providing an alternative methodology with which to benchmark poverty estimates, such as those of the World Bank and our own historical estimates presented here, that use incomes adjusted for price differences across countries and expressed in common units of purchasing power. This is one aspect of the World Bank's approach that has been the subject of debate in particular, and which the cost-of-basic-needs approach avoids (see Section 2.1.1 above). Overall, the long-run trends across all four series are remarkably similar. The fact that different researchers using different methodologies and data sources reach similar conclusions concerning the history of extreme poverty greatly increases our confidence in the overall trends.

5.2. Long-Run Evidence from Non-Monetary Metrics

The poorest people in the world today have worse living conditions more broadly. They live shorter lives, lack access to basic services, and a higher share suffers from hunger and malnutrition. To assess how plausible, or implausible, the historical reconstructions of poverty are, we should therefore look at the historical evidence for the living conditions in the past. Does the historical evidence on non-monetary metrics such as mortality and malnutrition match the reconstructions of high levels of monetary poverty?

5.2.1. Mortality at a Young Age

Figure 16, based on Volk and Atkinson (2013), shows the share of children who died before they reached the end of puberty.[31] These data, covering the last 2400 years, relate to a range of different locations from around the world. What is striking about the historical estimates is how very similar the mortality rates for children were across this wide range of 23 historical cultures. Whether in Ancient Rome, Ancient Greece, the pre-Columbian Americas, Medieval Japan or Medieval England,

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[31] In modern global health statistics, child mortality is defined as the share of children who die before the age of five. The historical research does not provide data for this age cutoff. A cutoff at the end of puberty has the advantage that it captures mortality over the entire course of childhood. To compare the historical estimates with modern global health data, we relied on data from the United Nations Inter-agency Group for Child Mortality Estimation (IGME) which publishes the mortality rate up to the age of 15 for countries around the world.

the European Renaissance, or Imperial China—no matter when and where a child was born, almost one in two children did not survive.

Volk and Atkinson also bring together mortality data from 20 different hunter-gatherer societies from very different locations to give an indication of the youth mortality rate in the type of society that humans in prehistoric times lived in.[32] Again they find very similar mortality rates with an average death rate until the end of puberty of 48.8%, almost exactly the same as the historical sample over the last three millennia.

The high mortality of children in all world regions is plausible when we consider the evidence on humanity's population growth. We know that population growth was close to zero, while fertility rates were high. The fertility rate, the average number of children per woman in the reproductive age bracket, was high—an average of 6 or more children per woman was certainly not rare (Roser 2014). A fertility rate of 4 children per woman would imply a doubling of the population size each generation; a rate of 6 children per woman would imply a tripling from one generation to the next. However, instead, the population barely increased: historical reconstructions suggest that between 10,000 BCE and 1700, the world population grew by only about 0.04% annually (Roser et al. 2013). A high number of births without a rapid increase of the population can only be explained by one sad reality: a high share of children died before they could have children themselves. The historical evidence that almost half of all children died certainly does not seem consistent with notions that poverty levels were low in the past.

Equally important for the plausibility of the historical poverty reconstructions is the fact that both population growth and declining mortality levels coincide with the decline in poverty that the national accounts data suggest, at both the global and country level. Globally, the chart shows that the global death rate of children younger than 15 declined from close to 50% to below 5% over the course of the last century. And today, populations in places with high levels of poverty still suffer from

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32 To study mortality at a young age in prehistoric societies, the researchers need to mostly rely on evidence from modern hunter-gatherers. Here, one needs to be cautious of how reflective modern hunter-gatherer societies are of the past. This is because recent hunter-gatherers might have been in exchange with surrounding societies and 'often currently live in marginalised territories', as the authors state. Both of these could matter for mortality levels.To account for this, Volk and Atkinson have attempted to only include hunter-gatherers that are best representative for the living conditions in the past; they limit their sample 'only to those populations that had not been significantly influenced by contact with modern resources that could directly influence mortality rates, such as education, food, medicine, birth control, and/or sanitation'. The one study on mortality rates of paleolithic hunter-gatherers finds a higher youth mortality rate: 56% did not survive to puberty.

youth mortality rates of up to 15%, while in places with the lowest poverty rates, up to 99.7% of children now survive their first 15 years of life.
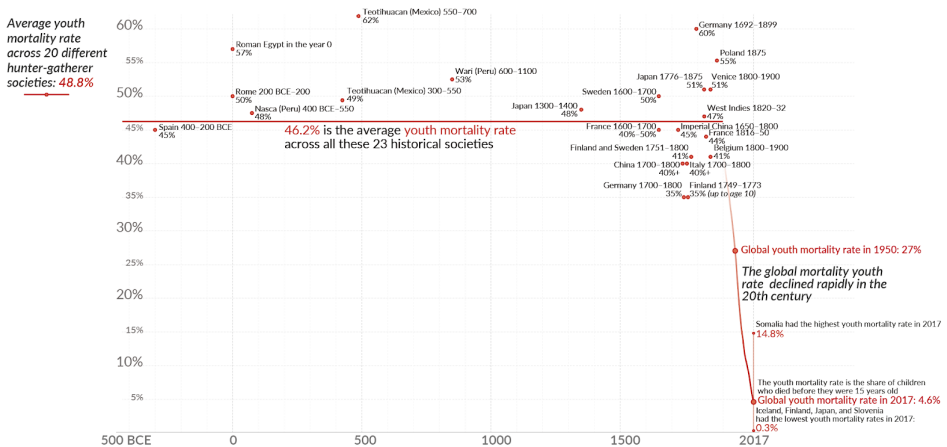

Figure 16. Youth mortality over the last 2400 years. Source: The mortality estimates for historical societies are from a large number of independent studies collected in Volk and Atkinson (2013). Data for 2017 are from the United Nations Inter-agency Group for Child Mortality Estimation (IGME). Global estimates for the 20th century are based on under-five mortality from Our World in Data. Note: Youth mortality measures the share who died as infants or children before reaching the end of puberty (approximately around the age of 15).

5.2.2. Human Height

A second set of evidence that allows us to study whether the reconstructions of monetary poverty over the last few generations are plausible can be found in the mortal remains of people around the world.

An individual person's height is largely determined by their genetic background, but the average height of an entire population is almost entirely determined by their living conditions, particularly the nutrition and health at a young age (Baten and Blum 2014). This allows historians to reconstruct people's living conditions by relying on the average human height in a population as a proxy measure. When there are no records of population height over time, the average height can be reconstructed from bones.

Figure 17 shows how the height of adult men has changed over the course of the last century (estimates of women's heights are published by the same source and

show a very similar change).[33] The differences in the height of men born in 1996 correlate closely with levels of monetary poverty today, the height of men born in the richest parts of the world being the tallest, while those born in the poorest countries being among the shortest.
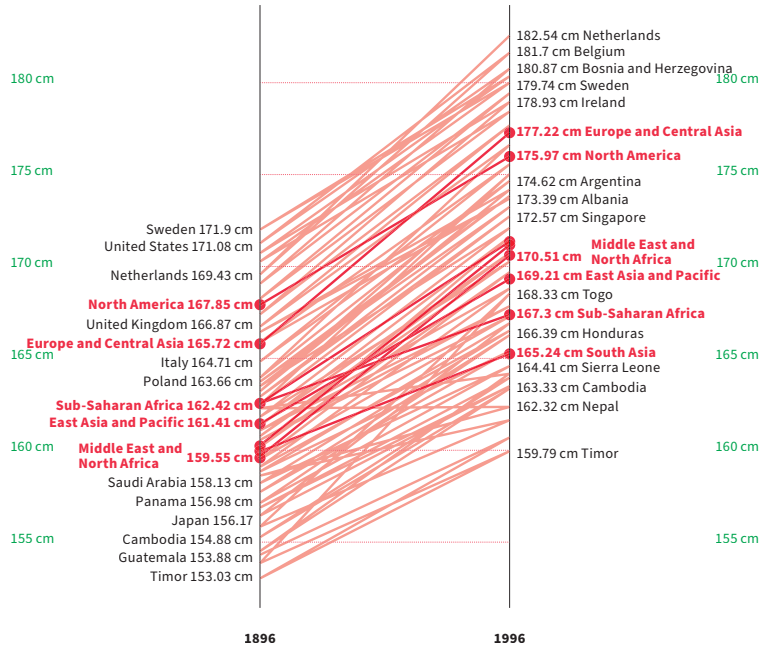

Figure 17. Height of adult men, 1896–1996. Source: NCD Risk Factor Collaboration (NCD-RisC), Our World in Data. Note: These data relate to the height of adult men by year of birth. Poor nutrition and illness in childhood limit human growth. As a consequence, the average height of a population is strongly correlated with living standards in a population.

Furthermore, importantly for the question at hand, it is also the case that the historical changes in men's height match closely with the historical reconstructions of monetary poverty presented before. These data show large changes in men's height over time: the global average increased by 9 cm from 1.62 m to 1.71 m, and in the regions and countries that made the fastest progress against poor living conditions, it can be well over 10 cm. The average man in Europe and Central Asia in the

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33   The data are published by NCD Risk Factor Collaboration (NCD-RisC).

late 19th century was smaller than the average man in sub-Saharan Africa today.[34] Additionally, as is the case with poverty reduction, the smallest improvements over the last century are documented for men in sub-Saharan Africa and South Asia. Large increases, on the other hand, are documented for people in North America, Europe, Central Asia, and Latin America and the Caribbean.

The data shown here goes back to the late 19th century when differences in economic prosperity had already emerged. In line with these differences, men in the least poor regions of the world were already the tallest. Reconstructions of the economic history of Europe suggest very poor economic living conditions during the centuries preceding the Industrial Revolution. Long-run reconstructions of human height in Europe by Koepke and Baten (2005) corroborate this long-run perspective.

5.2.3. Escaping the Malthusian Economy

Lastly, it is economic theory and its empirical support that suggests that the very high levels of poverty that we reported earlier do indeed reflect the living conditions in the past.

The mechanism that prevented progress against poverty and hunger in the past is referred to by economic historians as the 'Malthusian trap'. When the large majority of a society suffers from poverty and hunger, only an increase in production can raise living standards and reduce poverty. However, in the past, such productivity increases occurred only very rarely, and whenever they did occur, they only led to a brief increase in living standards because it ultimately caused an increasing size of the population which left everyone as poor as they were before. Due to this basic mechanism, higher productivity did not result in lower levels of poverty but in a larger number of people.

Ashraf and Galor (2011) develop a formal model of the Malthusian economy theoretically and study the evidence for it empirically. If the economic living standards of people in the pre-growth economy were in fact determined by the Malthusian trap, then we would expect to see a positive correlation between the level of productivity in a region and the density of the population in this area. Figure 18 is taken from their publication and confirms the theoretical prediction for the pre-growth economies in the year 1500.

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[34] On the question why men in the world's poorest region, sub-Saharan Africa, are slightly taller than men in South Asia, see Bozzoli et al. (2009).
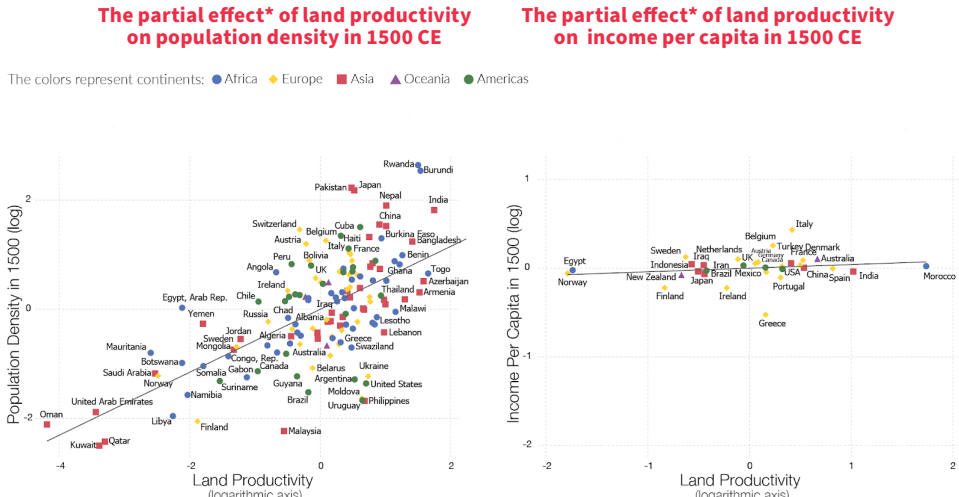
Figure 18. The partial effect of land productivity on population density and income per capita in 1500 CE. Source: Ashraf and Galor (2011). Note: The figure depicts the partial regression line for the effect of land productivity while controlling for the timing of the transition from hunting and gathering to agriculture, and the influence of absolute latitude, access to waterways, and continental fixed effects. The x- and y-axes plot the residuals obtained by regressing population density and income per capita, respectively, on these covariates.

All data in this visualisation are reported in the current borders of the world. On the x-axis of both charts, you find the same metric—the productivity of the agricultural land as measured by the quality of the soil and the climate. In the chart on the left we see that those world regions with the most productive land had the highest population density.

On the chart on the right, we see that the higher productivity of the land did not result in higher living standards. The agricultural sector in Spain, India, or Morocco was much more productive than in Finland, Egypt, and Norway, but the people in these countries were not better off—they were merely more numerous. The more productive regions were the more populous regions, and the people in these areas had to share with so many that everyone remained at dismal levels of prosperity.

In the long history before modern economic growth, higher productivity led to larger, but not richer, populations. This mechanism ensured that poverty levels were high everywhere.

6. Conclusions

Poor material living conditions were such a persistent and pervasive reality that, for much of human history, it was unimaginable that it could ever be different. Poverty did not change, and so, it was easy to believe that poverty was unchangeable. The Reverend Thomas Malthus wrote about the living conditions in his native England 'It has appeared that from the inevitable laws of our nature, some human beings must suffer from want. These are the unhappy persons who, in the great lottery of life, have drawn a blank'.[35]

When Malthus wrote these words in 1789, he was right about the past, but he turned out to be wrong about the world's reality after his death: In the two centuries since his death, many countries broke out of the stagnation of the past, achieved economic growth, and reduced poverty. The reconstructions of poverty presented here make clear that it is *not* an inevitable law of nature that humans must suffer from want. It is not only possible to reduce poverty, but it is a reality.

During the long past when humanity did not make any substantial progress in reducing poverty, there was no one bold enough to even imagine that it could be different in the future. Not only the reality of poverty reduction over the last 200 years stands in sharp contrast to the centuries and millennia preceding it, but with the reduction of poverty, the thinking about poverty has changed as well. Today, poverty is widely considered a social bad, a problem to be solved rather than a reality that needs to be accepted. Ravallion (2013) documents that before the modern reduction of poverty, poverty was considered a social good—'necessary and even desirable for a country's economic success'. That this idea is so repellent for us today makes clear how dramatic the change in perspective has been.

The reality of poverty reduction changed our view on poverty, and this matters substantially for our aspirations for the future. The same evidence that we presented here shows us how far the world has come, and *how* far we still have to go. That fewer than 10% of the world live in extreme poverty is the outcome of unprecedented progress and one of the most atrocious problems that the world faces today. It is the progress that we have made that makes the reality of extreme poverty so appalling—if Malthus was right that poverty was inevitable, we would need to accept the suffering that poverty causes; it is the decline in poverty documented here that makes it clear to us that the world can change and that economic growth and reductions of inequality can reduce poverty.

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[35] Thomas Malthus (1798)—An Essay on the Principle of Population. Chapter X, paragraph 29, lines 12–15.

As we emphasised before, the international poverty line is a very low poverty line—the name 'extreme poverty' is apt. As long as there are extremely poor people, it is ethically right that the world considers a poverty line that focuses our attention on the very poorest, but our aspirations should of course not be limited to ending only extreme poverty. According to the PovcalNet data, 85% of the world lives on less than $30 a day—the world is a very long way away from ending poverty relative to these higher poverty cutoffs. The fact that the global mean income (at $16 per day according to the 2017 PovcalNet data) is only about half of this poverty line shows just how much the world economy needs to grow to bring an end to poverty into reach.

Even after two centuries of unprecedented progress, an extremely large number of people around the world still suffer from poverty and extreme poverty. What we have learned is that poverty is not inevitable; now it is on us to continue and accelerate the progress the world has made. The history of global poverty reduction has only just begun.

Conflicts of Interest: The authors declare no conflict of interest.

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